RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/584,886
Source: IFW0
Date Processed by STIC: 11/09/2006

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RAW SEQUENCE LISTING DATE: 11/09/2006
PATENT APPLICATION: **US/10/584,886** TIME: 13:00:58

Input Set : **N:\efs\10584886_efs\Seqence_List_176_61623 txt**
Output Set: **N:\CRF4\11092006\J584886.raw**

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     3 <110> APPLICANT: Maines, Mahin D.
     5 <120> TITLE OF INVENTION: METHODS OF MODULATING CELL CYCLE AND CELL SIGNALING PATHWAYS
     6       USING BILIVERDIN REDUCTASE
     8 <130> FILE REFERENCE: 176/61623 (1208)
    10 <140> CURRENT APPLICATION NUMBER: 10/584,886
C--> 11 <141> CURRENT FILING DATE: 2006-06-29
    13 <150> PRIOR APPLICATION NUMBER: PCT/US2004/031866
    14 <151> PRIOR FILING DATE: 2004-09-29
    16 <150> PRIOR APPLICATION NUMBER: 60/539,006
    17 <151> PRIOR FILING DATE: 2004-01-23
    19 <150> PRIOR APPLICATION NUMBER: 60/506,805
    20 <151> PRIOR FILING DATE: 2003-09-29
    22 <160> NUMBER OF SEQ ID NOS: 7
    24 <170> SOFTWARE: PatentIn version 3.3
    26 <210> SEQ ID NO: 1
    28 <400> SEQUENCE: 1
W--> 29 000
    31 <210> SEQ ID NO: 2
    32 <211> LENGTH: 1070
    33 <212> TYPE: DNA
    34 <213> ORGANISM: Human BVR
    36 <400> SEQUENCE: 2
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    39 atgaatgcag agcccgagag gaagtttggc gtggtggtgg ttggtgttgg ccgagccggc    120
    41 tccgtgcgga tgagggactt gcggaatcca cacccttcct cagcgttcct gaacctgatt    180
    43 ggcttcgtgt cgagaaggga gctcgggagc attgatggag tccagcagat ttctttggag    240
    45 gatgctcttt ccagccaaga ggtggaggtc gcctatatct gcagtgagag ctccagccat    300
    47 gaggactaca tcaggcagtt ccttaatgct ggcaagcacg tccttgtgga ataccccatg    360
    49 acactgtcat tggcggccgc tcaggaactg tgggagctgg ctgagcagaa aggaaaagtc    420
    51 ttgcacgagg agcatgttga actcttgatg gaggaattcg ctttcctgaa aaaagaagtg    480
    53 gtggggaaag acctgctgaa agggtcgctc ctcttcacat ctgacccgtt ggaagaagac    540
    55 cggtttggct tccctgcatt cagcggcatc tctcgactga cctggctggt ctccctcttt    600
    57 ggggagcttt ctcttgtgtc tgccactttg gaagagcgaa aggaagatca gtatatgaaa    660
    59 atgacagtgt gtctggagac agagaagaaa agtccactgt catggattga agaaaaagga    720
    61 cctggtctaa aacgaaacag atatttaagc ttccatttca agtctgggtc cttggagaat    780
    63 gtgccaaatg taggagtgaa taagaacata tttctgaaag atcaaaatat atttgtccag    840
    65 aaactcttgg gccagttctc tgagaaggaa ctggctgctg aaaagaaacg catcctgcac    900
    67 tgcctggggc ttgcagaaga aatccagaaa tattgctgtt caaggaagta agaggaggag    960
    69 gtgatgtagc acttccaaga tggcaccagc atttggttct tctcaagagt tgaccattat   1020
    71 ctctattctt aaaattaaac atgttgggga aacaaaaaaa aaaaaaaaaa              1070
    74 <210> SEQ ID NO: 3
    75 <211> LENGTH: 296
    76 <212> TYPE: PRT
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Output Set: **N:\CRF4\11092006\J584886.raw**

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79 <400> SEQUENCE: 3
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82 1               5                  10                  15
85 Gly Arg Ala Gly Ser Val Arg Met Arg Asp Leu Arg Asn Pro His Pro
86             20                  25                  30
89 Ser Ser Ala Phe Leu Asn Leu Ile Gly Phe Val Ser Arg Arg Glu Leu
90         35                  40                  45
93 Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser
94     50                  55                  60
97 Ser Gln Glu Val Glu Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His
98 65                  70                  75                  80
101 Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val
102                 85                  90                  95
105 Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu
106             100                 105                 110
109 Leu Ala Glu Gln Lys Gly Lys Val Leu His Glu Glu His Val Glu Leu
110         115                 120                 125
113 Leu Met Glu Glu Phe Ala Phe Leu Lys Lys Gln Val Val Gly Lys Asp
114     130                 135                 140
117 Leu Leu Lys Gly Ser Leu Leu Phe Thr Ala Gly Pro Leu Glu Glu Glu
118 145                 150                 155                 160
121 Arg Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu
122                 165                 170                 175
125 Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu
126             180                 185                 190
129 Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu
130         195                 200                 205
133 Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys
134     210                 215                 220
137 Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn
138 225                 230                 235                 240
141 Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn
142                 245                 250                 255
145 Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala
146             260                 265                 270
149 Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile
150         275                 280                 285
153 Gln Lys Tyr Cys Cys Ser Arg Lys
154     290                 295
157 <210> SEQ ID NO: 4
158 <211> LENGTH: 295
159 <212> TYPE: PRT
160 <213> ORGANISM: Rat BVR
162 <400> SEQUENCE: 4
164 Met Asp Ala Glu Pro Lys Arg Lys Phe Gly Val Val Val Val Gly Val
165 1               5                  10                  15
168 Gly Arg Ala Gly Ser Val Arg Leu Arg Asp Leu Lys Asp Pro Arg Ser
169             20                  25                  30
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Output Set: **N:\CRF4\11092006\J584886.raw**

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172 Ala Ala Phe Leu Asn Leu Ile Gly Phe Val Ser Arg Arg Glu Leu Gly
173         35                  40                  45
176 Ser Leu Asp Glu Val Arg Gln Ile Ser Leu Glu Asp Ala Leu Arg Ser
177     50                  55                  60
180 Gln Glu Ile Asp Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His Glu
181 65                  70                  75                  80
184 Asp Tyr Ile Arg Gln Phe Leu Gln Ala Gly Lys His Val Leu Val Glu
185                 85                  90                  95
188 Tyr Pro Met Thr Leu Ser Phe Ala Ala Ala Gln Glu Leu Trp Glu Leu
189             100                 105                 110
192 Ala Ala Gln Lys Gly Arg Val Leu His Glu Glu His Val Glu Leu Leu
193         115                 120                 125
196 Met Glu Glu Phe Glu Phe Leu Arg Arg Glu Val Leu Gly Lys Glu Leu
197     130                 135                 140
200 Leu Lys Gly Ser Leu Arg Phe Thr Ala Ser Pro Leu Glu Glu Glu Arg
201 145                 150                 155                 160
204 Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu Val
205                 165                 170                 175
208 Ser Leu Phe Gly Glu Leu Ser Leu Ile Ser Ala Thr Leu Glu Glu Arg
209             180                 185                 190
212 Lys Glu Asp Gln Tyr Met Lys Met Thr Val Gln Leu Glu Thr Gln Asn
213         195                 200                 205
216 Lys Gly Leu Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys Arg
217     210                 215                 220
220 Asn Arg Tyr Val Asn Phe Gln Phe Thr Ser Gly Ser Leu Glu Glu Val
221 225                 230                 235                 240
224 Pro Ser Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asp Ile
225                 245                 250                 255
228 Phe Val Gln Lys Leu Leu Asp Gln Val Ser Ala Glu Asp Leu Ala Ala
229             260                 265                 270
232 Glu Lys Lys Arg Ile Met His Cys Leu Gly Leu Ala Ser Asp Ile Gln
233         275                 280                 285
236 Lys Leu Cys His Gln Lys Lys
237     290                 295
240 <210> SEQ ID NO: 5
241 <211> LENGTH: 1081
242 <212> TYPE: DNA
243 <213> ORGANISM: Rat BVR
245 <400> SEQUENCE: 5
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248 aacctctgtc tgtcttcgga cactgactga agagaccgag atggatgccg agccaaagag    120
250 gaaatttgga gtggtagtgg ttggtgttgg cagagctggc tcggtgaggc tgagggactt    180
252 gaaggatcca cgctctgcag cattcctgaa cctgattgga tttgtgtcca gacgagagct    240
254 tgggagcctt gatgaagtac ggcagatttc tttggaagat gctctccgaa gccaagagat    300
256 tgatgtcgcc tatatttgca gtgagagttc cagccatgaa gactatatac ggcagtttct    360
258 gcaggctggc aagcatgtcc tcgtggaata ccccatgaca ctgtcatttg cggcggccca    420
260 ggagctgtgg gagctggccg cacagaaagg gagagtcctg catgaggagc acgtggaact    480
262 cttgatggag gaattcgaat tcctgagaag agaagtgttg gggaaagagc tactgaaagg    540
264 gtctcttcgc ttcacagcta gcccactgga agaagagaga tttggcttcc ctgcgttcag    600
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Input Set : **N:\efs\10584886_efs\Seqence_List_176_61623.txt**
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266 cggcatttct cgcctgacct ggctggtctc cctcttcggg gagctttctc ttatttctgc 660
268 caccttggaa gagcgaaaag aggatcagta tatgaaaatg accgtgcagc tggagaccca 720
270 gaacaagggt ctgctgtcat ggattgaaga gaaagggcct ggcttaaaaa gaaacagata 780
272 tgtaaacttc cagttcactt ctgggtccct ggaggaagtg ccaagtgtag gggtcaataa 840
274 gaacattttc ctgaaagatc aggatatatt tgttcagaag ctcttagacc aggtctctgc 900
276 agaggacctg gctgctgaga agaagcgcat catgcattgc ctggggctgg ccagcgacat 960
278 ccagaagctt tgccaccaga agaagtgaag aggaagctte agagacttct gaaggggccc 1020
280 agggtttggt cctatcaacc attcaccttt agctcttaca attaaacatg tcagataaac 1080
282 a 1081
285 <210> SEQ ID NO: 6
286 <211> LENGTH: 295
287 <212> TYPE: PRT
288 <213> ORGANISM: Mouse BVR
290 <400> SEQUENCE: 6
292 Met Ser Thr Glu Pro Lys Arg Lys Phe Gly Val Val Val Val Gly Val
293 1 5 10 15
296 Gly Arg Ala Gly Ser Val Arg Ile Arg Asp Ser Lys Asp Pro His Ser
297 20 25 30
300 Ser Ala Phe Leu Asn Leu Ile Gly Tyr Val Ser Arg Arg Glu Leu Gly
301 35 40 45
304 Ser Leu Asp Asn Val Arg Gln Ile Ser Leu Glu Asp Ala Leu Arg Ser
305 50 55 60
308 Gln Glu Val Asp Val Ala Tyr Ile Cys Thr Glu Ser Ser Ser His Glu
309 65 70 75 80
312 Asp Tyr Ile Arg Gln Phe Leu Gln Ala Gly Lys His Val Leu Val Glu
313 85 90 95
316 Tyr Pro Met Ala Leu Ser Phe Ala Ala Ala Gln Glu Leu Trp Glu Leu
317 100 105 110
320 Ala Ala Gln Lys Gly Arg Val Leu His Glu Glu His Ile Glu Leu Leu
321 115 120 125
324 Met Glu Glu Phe Glu Phe Leu Lys Arg Glu Val Ala Gly Lys Glu Leu
325 130 135 140
328 Leu Lys Gly Ser Leu Arg Phe Thr Ala Ser Pro Leu Glu Glu Glu Lys
329 145 150 155 160
332 Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu Val
333 165 170 175
336 Ser Leu Phe Gly Glu Leu Ser Leu Ile Ser Ala Thr Met Glu Asn Arg
337 180 185 190
340 Lys Glu Asp Gln Tyr Met Lys Met Thr Val Gln Leu Glu Thr Gln Asn
341 195 200 205
344 Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys Arg
345 210 215 220
348 Asn Arg His Ile Ser Ile His Phe Lys Ser Gly Ser Leu Glu Glu Val
349 225 230 235 240
352 Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asp Ile
353 245 250 255
356 Phe Ile Gln Lys Leu Leu Gly Gln Val Ser Ala Glu Asp Leu Ala Ala
357 260 265 270
360 Glu Lys Lys Arg Ile Leu His Cys Leu Glu Leu Ala Ser Asp Ile Gln

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364 Arg Leu Cys His Arg Lys Gln
365     290                 295
368 <210> SEQ ID NO: 7
369 <211> LENGTH: 296
370 <212> TYPE: PRT
371 <213> ORGANISM: Pig BVR
373 <400> SEQUENCE: 7
375 Met Asn Ala Glu Pro Glu Arg Lys Phe Gly Val Val Val Val Gly Val
376 1               5                   10                  15
379 Gly Arg Ala Gly Ser Val Arg Met Arg Asp Leu Arg Asn Pro His Pro
380             20                  25                  30
383 Ser Ser Ala Phe Leu Asn Leu Ile Gly Phe Val Ser Arg Arg Glu Leu
384         35                  40                  45
387 Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser
388     50                  55                  60
391 Ser Gln Glu Val Glu Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His
392 65                  70                  75                  80
395 Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val
396                 85                  90                  95
399 Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu
400             100                 105                 110
403 Leu Ala Glu Gln Lys Gly Lys Val Leu His Glu Glu His Val Glu Leu
404         115                 120                 125
407 Leu Met Glu Glu Phe Ala Phe Leu Lys Lys Glu Val Val Gly Lys Asp
408     130                 135                 140
411 Leu Leu Lys Gly Ser Leu Leu Phe Thr Ala Gly Pro Leu Glu Glu Glu
412 145                 150                 155                 160
415 Arg Phe Gly Ser Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu
416                 165                 170                 175
419 Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu
420             180                 185                 190
423 Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu
424         195                 200                 205
427 Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys
428     210                 215                 220
431 Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn
432 225                 230                 235                 240
435 Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn
436                 245                 250                 255
439 Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala
440             260                 265                 270
443 Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile
444         275                 280                 285
447 Gln Lys Tyr Cys Cys Ser Arg Lys
448     290                 295
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VERIFICATION SUMMARY DATE: 11/09/2006
PATENT APPLICATION: **US/10/584,886** TIME: 13:00:59

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